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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,505	12/05/2003	Motoaki Nishikawa	Q78746	7848
23373 7590 10/17/2007 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER DANIELS, MATTHEW J	
			ART UNIT 1791	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/727,505	<b>Applicant(s)</b> NISHIKAWA ET AL.	
	<b>Examiner</b> Matthew J. Daniels	<b>Art Unit</b> 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 16-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 16-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Objections*

1. The objections set forth previously are withdrawn.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1 and 18** are rejected under 35 U.S.C. 102(b) as being anticipated by Goeb (USPN 5688573). **As to Claim 1**, Goeb teaches a method of forming a display which could be used as a display of a packaging case comprising the steps of:

Irradiating a laser beam on a front face of an article which could be used as a packaging case produced by a paper sheet (50, Fig. 5) having a coloring agent (8:55-9:21) and a resin film (10, Figs. 1-6) protecting the front face and being on the front face (10, Figs. 1-6).

Evaporating the colored layer and the resin film with the laser beam (9:41-50), thereby forming the display (Figs. 1-6), which could inherently be used as a packaging case.

**As to Claim 18**, Goeb teaches a method of forming a display which could be used as a display of a packaging case comprising the steps of:

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Irradiating a laser beam on a front face of an article which could be used as a packaging case produced by a paper sheet (50, Fig. 5) having a coloring agent (8:55-9:21) and a resin film (10, Figs. 1-6) protecting the front face and being on the front face (10, Figs. 1-6).

Evaporating the colored layer and the resin film with the laser beam (9:41-50), thereby forming the display (Figs. 1-6), which could inherently be used as a packaging case,

Wherein the resin layer is (comprised of) polyester (Abstract).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1, 3, 5-8, 16 and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hughes (USPN 6169266) in view of Ward (USPN 2192423) and Sonobe (USPN 6244176). **As to Claim 1**, Hughes teaches a method of forming a display which could inherently be used as a display of a packaging case, the method comprising:

Irradiating a laser beam on a front face of a material that could be used as a packaging case having a colored layer and a film layer which protects the front face on the front face;

Evaporating the colored layer and the film layer by the laser beam, thereby forming the display on the article which could be used as a display on a packaging case.

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Hughes is silent to the paper sheet and to explicit teaching that the ink or paint is a resin. However, these aspects of the invention would have been prima facie obvious for the following reasons:

- a) Paper sheet labels are conventional and are disclosed, for example, by Ward. Ward teaches a package (page 1, right column, lines 30-35) having a paper substrate (page 2, right column, lines 35-50), and that it is obvious to ornament the surface (page 2, right column, lines 58-65).
- b) Sonobe teaches an ink which is formed from monomers and oligomers (5:10-22), which is interpreted to be a resin.

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the methods of Ward and Sonobe into that of Hughes because:

- (a1) Ward suggests ornamentation, which Hughes provides.
- (a2) Hughes suggests the method for any article where a design or indicia is required, which Ward provides.
- (a3) The paper substrate of Ward would provide a reinforcing layer to the invention of Hughes.
- (b1) Hughes suggests wear resistant (2:32) inks (2:47) and the thermosetting inks of Sonobe would provide favorable wear resistance.
- (b2) One of ordinary skill in the art would have recognized that the art of Sonobe could be substituted for the ink of Hughes to provide the predictable result that thermosetting layers of ink would be provided in the same or substantially the order required by Hughes.

**As to Claims 3 and 7**, any of the layers of Hughes is interpreted as the claimed colored layer or the protecting film. In the combination of Ward and Hughes where Ward provides two paper layers or sheets and Hughes provides multiple layers of coating, each of which performs

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the function of protecting or coloring, the claim limitations drawn to the configuration of layers are met. Hughes is silent to the UV coating material. However, Sonobe teaches UV coating material (ultraviolet curing ink, 5:16-17). It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Sonobe into that of Hughes because Hughes suggests wear resistant (2:32) inks (2:47) and the thermosetting inks of Sonobe would provide favorable wear resistance. Additionally, Hughes suggests a particular order or layering of inks (black, cyan, magenta, yellow, white), which Sonobe provides. **As to Claims 5 and 6**, Ward provides two paper layers (page 2, right column, lines 35-50). Any of the layers of Hughes is interpreted as the claimed colored layer or the protecting film. In the combination of Ward and Hughes where Ward provides two paper layers or sheets and Hughes provides multiple layers of coating, each of which performs the function of protecting or coloring, the claim limitations are met. **As to Claim 8**, the packaging case of Ward could be used for any of the recited articles (Figures), and in the alternative, it would have been prima facie obvious to adjust the size to store the claimed articles. **As to Claim 16**, Ward provides at least two layers of paper, which provides a base layer which is a paper layer (Fig. 7). **As to Claim 17**, Hughes teaches ablative removal (Abstract), which is interpreted to be evaporation, of a total thickness of a portion of the outer layer and a total thickness of a colored layer adjacent to the resin film layer to form the display (Fig. 5B, item 54). In combination with Sonobe, it would have been obvious to make these layers of a resinous ink, as set forth above under the rejection of Claim 1.

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4. **Claims 2 and 4** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hughes (USPN 6169266) in view of Ward (USPN 2192423) and Sonobe (USPN 6244176), and further in view of Robertson (USPN 6007929). Hughes, Ward, and Sonobe teach the subject matter of Claim 1 above under 35 USC 103(a). **As to Claim 2**, Hughes is silent to a carbon dioxide laser. However, carbon dioxide lasers are conventional for laser engraving and marking. For example, Robertson teaches a multilayer coating, one layer evaporated or ablated (Fig. 4), and that a carbon dioxide laser is preferred for its long operating life (4:39-50). It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Robertson into that of Hughes, Ward, and Sonobe because Hughes suggests a laser marking method and the carbon dioxide laser of Robertson would provide a long operating life. **As to Claim 4**, Hughes is silent to the UV coating material. However, Sonobe teaches UV coating material (ultraviolet curing ink, 5:16-17). It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Sonobe into that of Hughes because Hughes suggests wear resistant (2:32) inks (2:47) and the thermosetting inks of Sonobe would provide favorable wear resistance. Additionally, Hughes suggests a particular order or layering of inks (black, cyan, magenta, yellow, white), which Sonobe provides.

5. **Claims 18-23** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hughes (USPN 6169266) in view of Ward (USPN 2192423) and Cicci (USPN 4836102). **As to Claim 1**, Hughes teaches a method of forming a display which could inherently be used as a display of a packaging case, the method comprising:

Irradiating a laser beam on a front face of a material that could be used as a packaging case having a colored layer (Fig. 5B, item 46) and a film layer which protects the front face on the front face (Fig. 5B, item 48);

Evaporating the colored layer and the film layer by the laser beam, thereby forming the display on the article which could be used as a display on a packaging case.

Hughes is silent to the paper sheet and to explicit teaching that the ink or paint is a polyester or polypropylene resin. However, these aspects of the invention would have been prima facie obvious for the following reasons:

- a) Paper sheet labels are conventional and are disclosed, for example, by Ward. Ward teaches a package (page 1, right column, lines 30-35) having a paper substrate (page 2, right column, lines 35-50), and that it is obvious to ornament the surface (page 2, right column, lines 58-65).
- b) Cicci teaches that it is known to use polyester resin inks (Abstract, line 10) for transferring ink onto a printable substrate (4:3-9). The process may be used when additional coats of ink of different colors are used (*Id.*).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the methods of Ward and Cicci into that of Hughes because:

- (a1) Ward suggests ornamentation, which Hughes provides.
- (a2) Hughes suggests the method for any article where a design or indicia is required, which Ward provides.
- (a3) The paper substrate of Ward would provide a reinforcing layer to the invention of Hughes.
- (b1) Hughes suggests wear resistant (2:32) inks (2:47) and the thermosetting inks of Cicci would provide favorable wear resistance.



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(b2) Hughes suggests a multilayered ink scheme (Fig. 5B) and Cicci teaches inks that are specifically suggested for a multilayer ink design (4:3-9).

**As to Claim 19**, Cicci teaches a UV coating material (3:60-4:10). **As to Claims 20-22**, Ward provides at least two paper layers superimposed such that they provide a paper sheet and base layer. Any of the layers of Hughes is interpreted as the claimed colored layer or the protecting film. In the combination of Ward and Hughes where Ward provides two paper layers or sheets and Hughes provides multiple layers of coating, each of which performs the function of protecting or coloring, the claim limitations drawn to the configuration of layers are met. Cicci teaches that it is known to use a UV coating material (3:54-68). **As to Claim 23**, the packaging case of Ward could be used for any of the recited articles (Figures), and in the alternative, it would have been prima facie obvious to adjust the size to store the claimed articles.

### *Response to Arguments*

6. Applicant's arguments filed 16 July 2007 have been fully considered but they are not persuasive. The arguments appear to be on the following grounds:

a) Goeb fails to disclose irradiating a laser beam on a front face of a package produced by a paper sheet having a colored layer constituted by a coloring agent and a resin film for protecting the front face, as recited by Claim 1.

b) The motivation recited would not be persuasive as they are based on non-technical features of the applied references. Ward's suggestion of ornamentation is wholly insufficient as a reason for combining the multilayered coating with a paper surface.

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c) Hughes teaches the coating technique as an alternative to labels or inked markings and teaches away from paper labels. Using the Hughes method, graphics and text may be applied directly to the surface of the article.

d) Sonobe does not teach a UV coating material (Remarks, Page 10, last paragraph). Sonobe teaches using an UV curable ink applied with a flexographic press (*Id.*). There is no valid reason for combining the UV curable inks of Sonobe with the multilayered etched coatings of Hughes.

7. These arguments are not persuasive for the following reasons:

a) In Goeb, item 50 is paper (10:54-55), and items 10, 20, and 30 are each colored layers (9:35-58). The laser removes layers 10 and 20 (9:42-50). The layer 10 inherently provides the functional limitation of protecting the front face on the front face by its position as the outermost layer. Coloring layers may provide the function of protecting, and therefore fall within the scope of the claim language.

b) The Examiner respectfully disagrees that the motivation is not sufficient. The method of Hughes “can be used on practically any article, regardless of its shape, construction or the type of material making up the article’s surface.” (7:55-57). In providing this broad teaching and suggestion, Hughes does not exclude any particular substrate or material surface, such as the claimed paper substrate. Because paper substrates having indicia are known (See Ward), and in view of the broad teaching of Hughes, it is submitted that the combination would have been obvious.

c) Applicants’ have characterized Hughes as teaching away from using paper labels, citing 1:34-40. Hughes does not teach that the disclosed process cannot be used with labels, and teaches

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instead that both labeling and direct printing processes work well in many applications (1:34-40). Hughes teaches that once labels are direct printed (as disclosed in the prior art), the information to be placed on a product cannot be subjected to last-minute changes (2:10-15). Typically, with direct printing, new art must be prepared and approved, proofs generated, and the labels must be printed and delivered (2:17-21). However, when the packages or labels of Ward receive the layered paint or ink of Hughes, any drawbacks related to the unchangeable nature of the direct-printed labels would be absent because the design may be altered until the indicia is carved into the substrate.

d) If it is argued that "Sonobe merely teaches of using an UV curable ink that is applied to paper using a flexographic press" (Applicants' Remarks, Page 10, last paragraph), then it is unclear how the Examiner's position that Sonobe's teaches a UV coating material can be incorrect. Applicants' argument appears to be self-contradictory in that the UV coating material of the application (Specification, page 7, lines 9-15, for example) is in fact a coating material which is hardened by ultraviolet light, as also disclosed by Sonobe. It is submitted that the ink of Sonobe is an obvious substitute for the ink of Hughes, which is not subject to any particular chemical limitations.

In reconsidering the rejection, it was noted that Hughes does not provide any explicit description that the paint or ink is a "resin". Therefore, this action is made non-final and new revised rejections are set forth above.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Daniels whose telephone number is (571) 272-2450. The examiner can normally be reached on Monday - Friday, 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Matthew J. Daniels

14 October 2007  
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